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(72)Inventor: TAKAHASHI YUUTOU

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## (54) CATADIOPTRIC SYSTEM

(57)Abstract:

PURPOSE: To make the aperture of a concave mirror smaller without deteriorating the performance of an optical system. CONSTITUTION: A 3rd lens group G3 having positive refracting power in a 1st image-forming optical system forming the intermediate image of a first surface includes at least a 10th lens group G10 having the positive refracting power, an 11th lens group G11 having negative refracting power and a 12th lens group G12 having the positive refracting power in order from the side of the first surface: and a 4th lens group G4 possesses the concave mirror and a negative lens component whose concave surface faces to the side of the first surface; and light from the first surface is led in order of the 10th lens group G10, the 11th lens group G11, the 12th lens group G12, the 4th lens group G4, the 12th lens group G12, the 11th lens group G11 and the 10th lens group G10, and the synthetic magnification of the 1st image-forming optical system and a 2nd image-forming optical system is a reduction magnification in this catadioptric system.



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